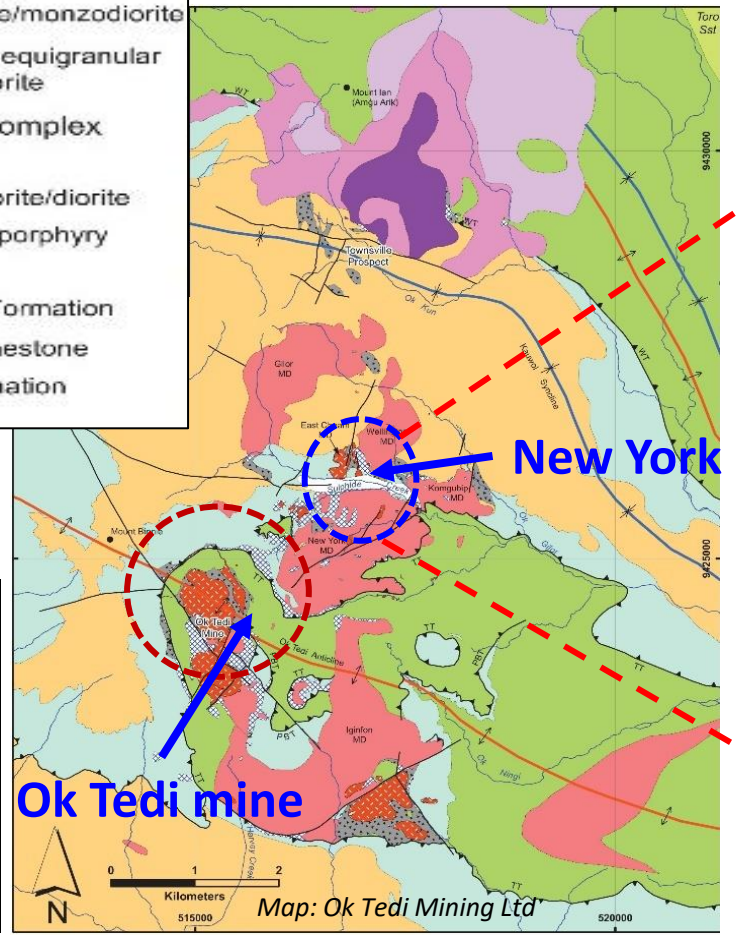
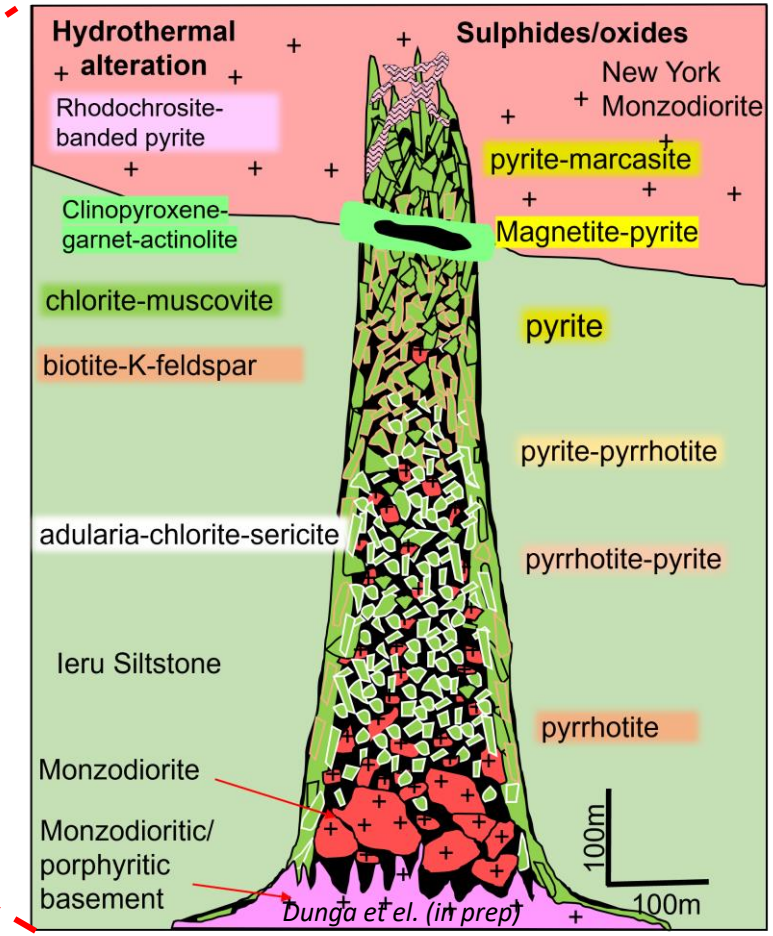
Timing constraints on the New York breccia pipe, Ok Tedi

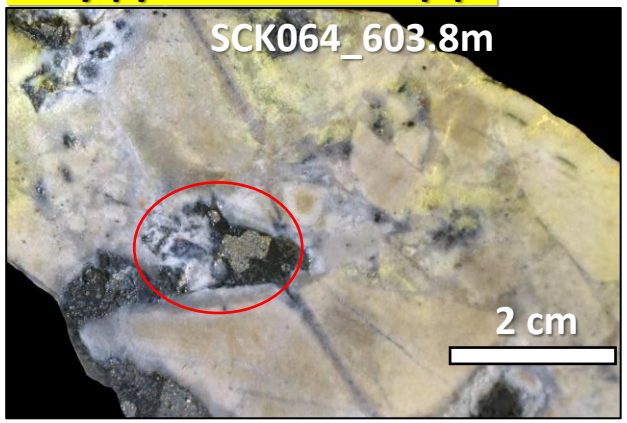
Jerry Dunga



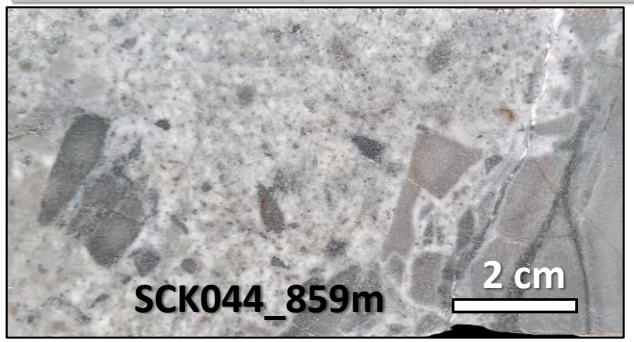


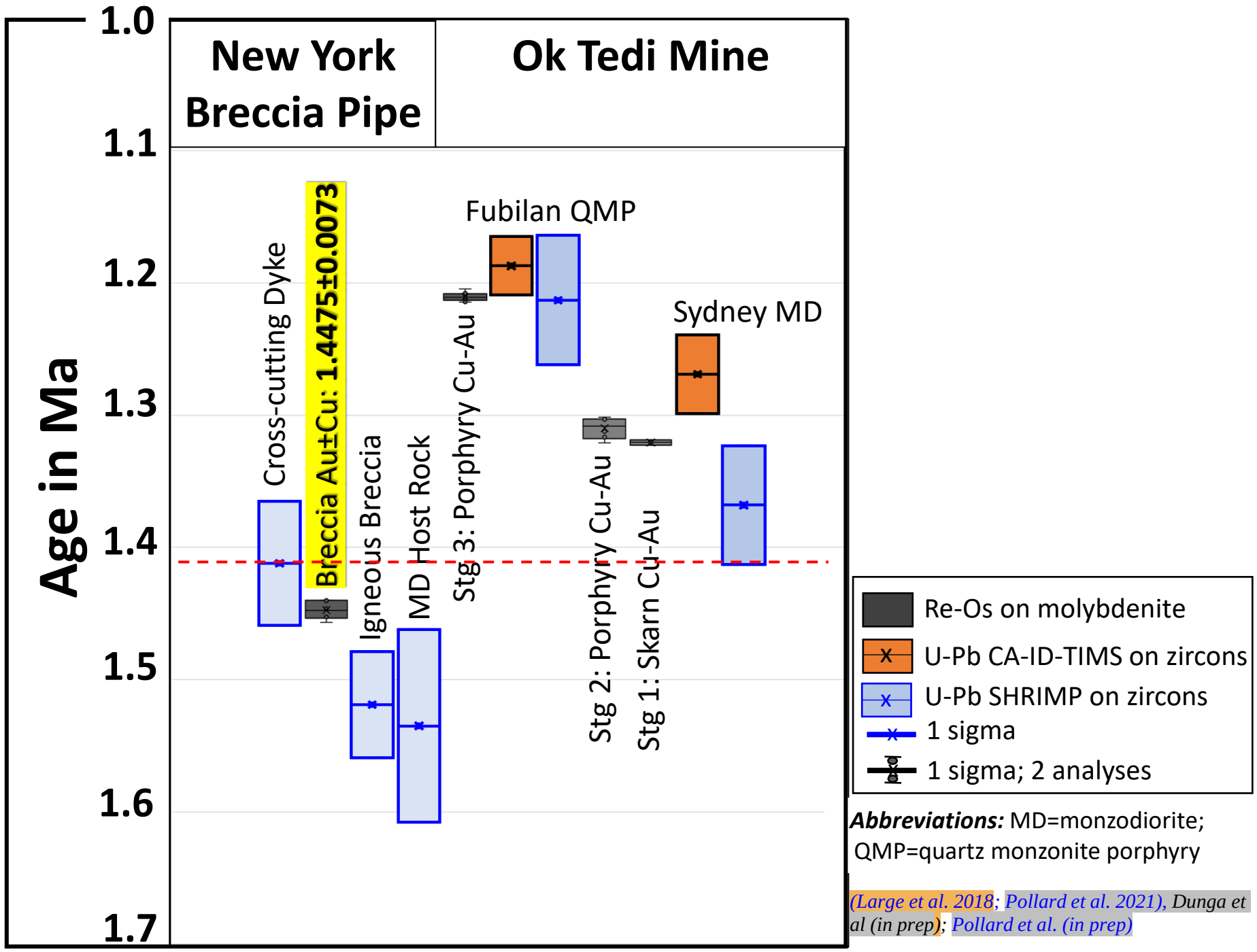
Mineralised brecciated clast in cross-cutting dyke

Moly-py infil in breccia pipe



Igneous breccia pipe (qtz-fldspr mtx)



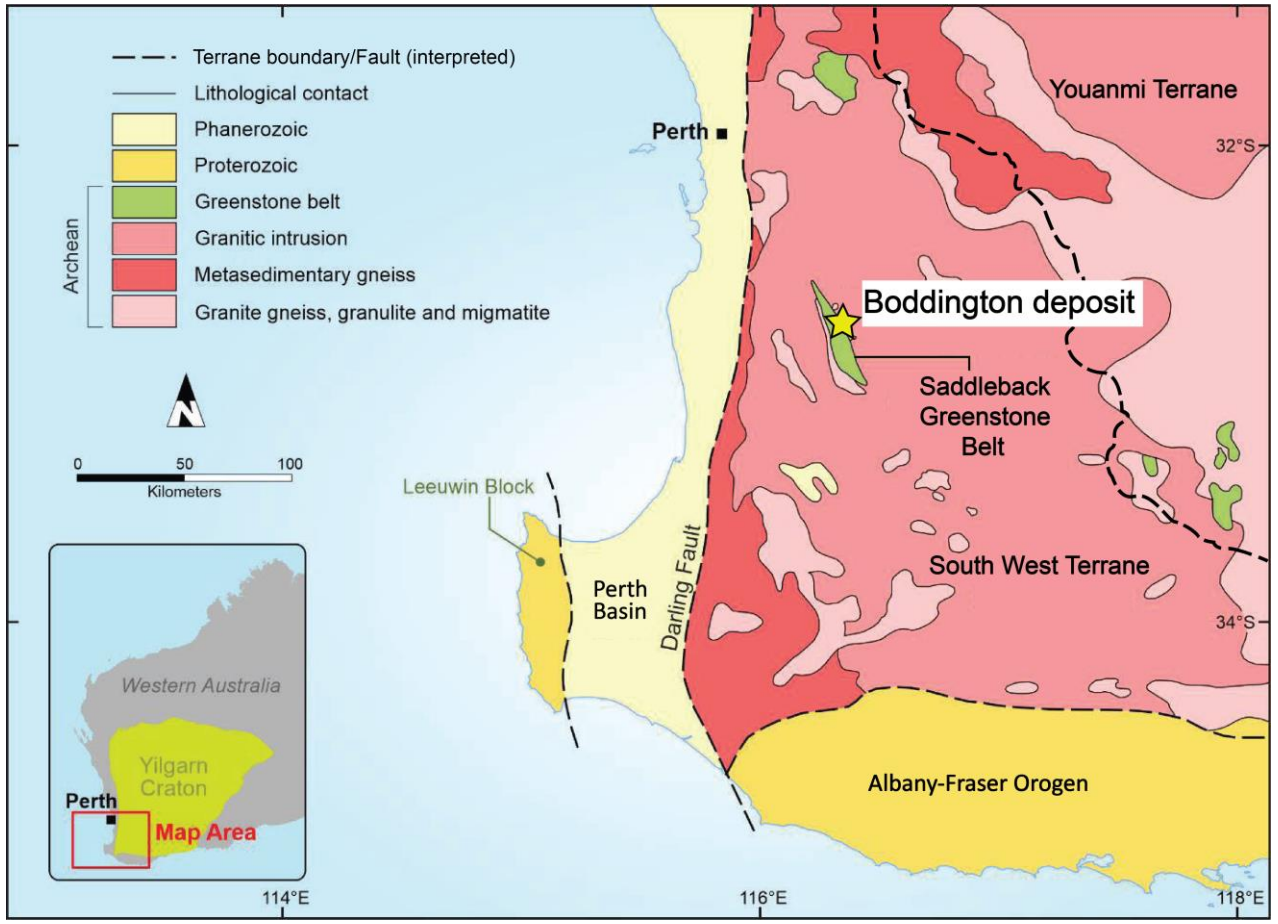


Abbreviations: MD=monzodiorite; QMP=quartz monzonite porphyry

(Large et al. 2018; Pollard et al. 2021), Dunga et al (in prep); Pollard et al. (in prep)

Relative timing of hydrothermal alteration at the Boddington Au-Cu-Mo deposit, Western Australia

Edmore Marima



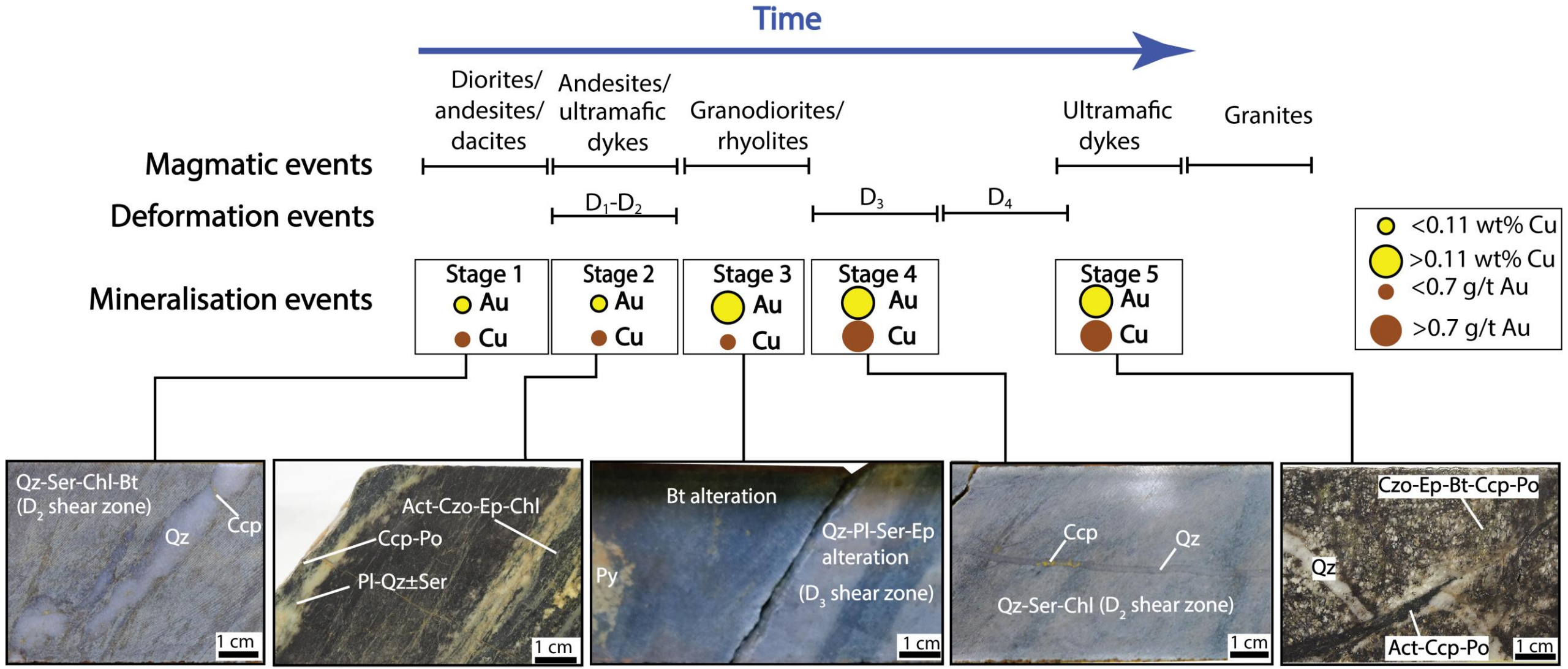
Modified after Turner et al. (2020)

Proposed genetic models

- Porphyry Au-Cu
- 'Orogenic' Au-Cu
- Intrusion-related Au-Cu

What is the temporal relationship between Au-Cu mineralisation, magmatism & deformation?

Au-Cu mineralisation events

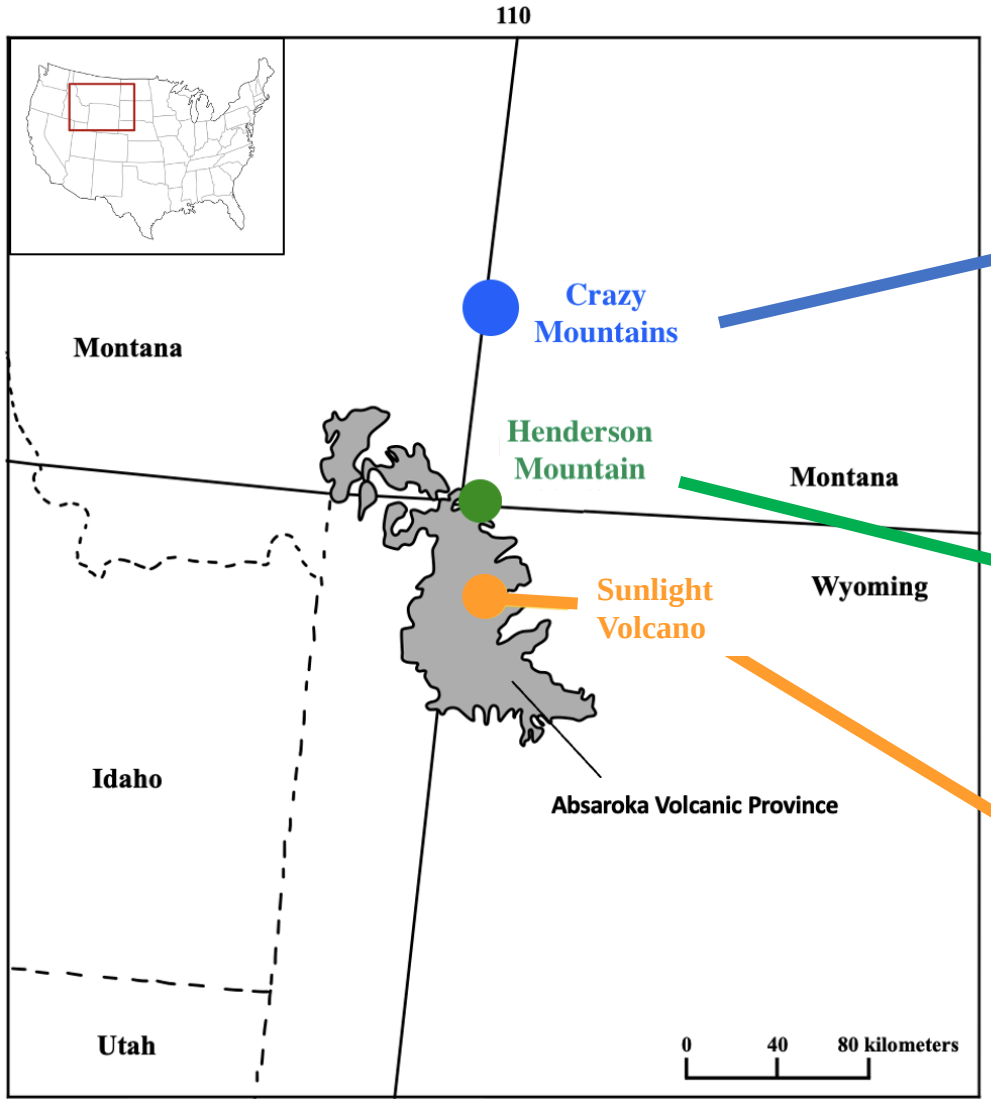


What do accessory mineral trace-elements tell us about the nature of Cu- and Au-fertile magmas?

Elina Kong

Australian Government
Australian Research Council

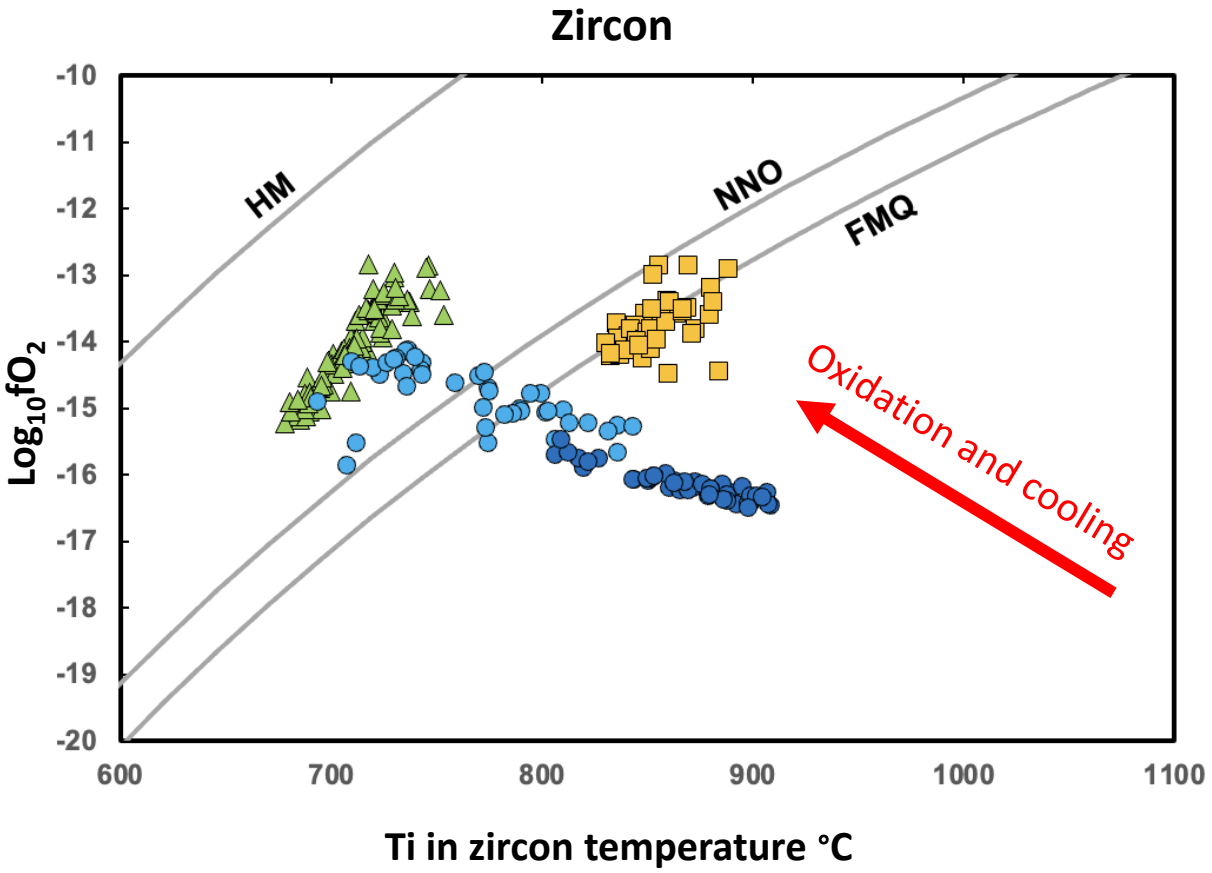
THE UNIVERSITY OF WESTERN AUSTRALIA

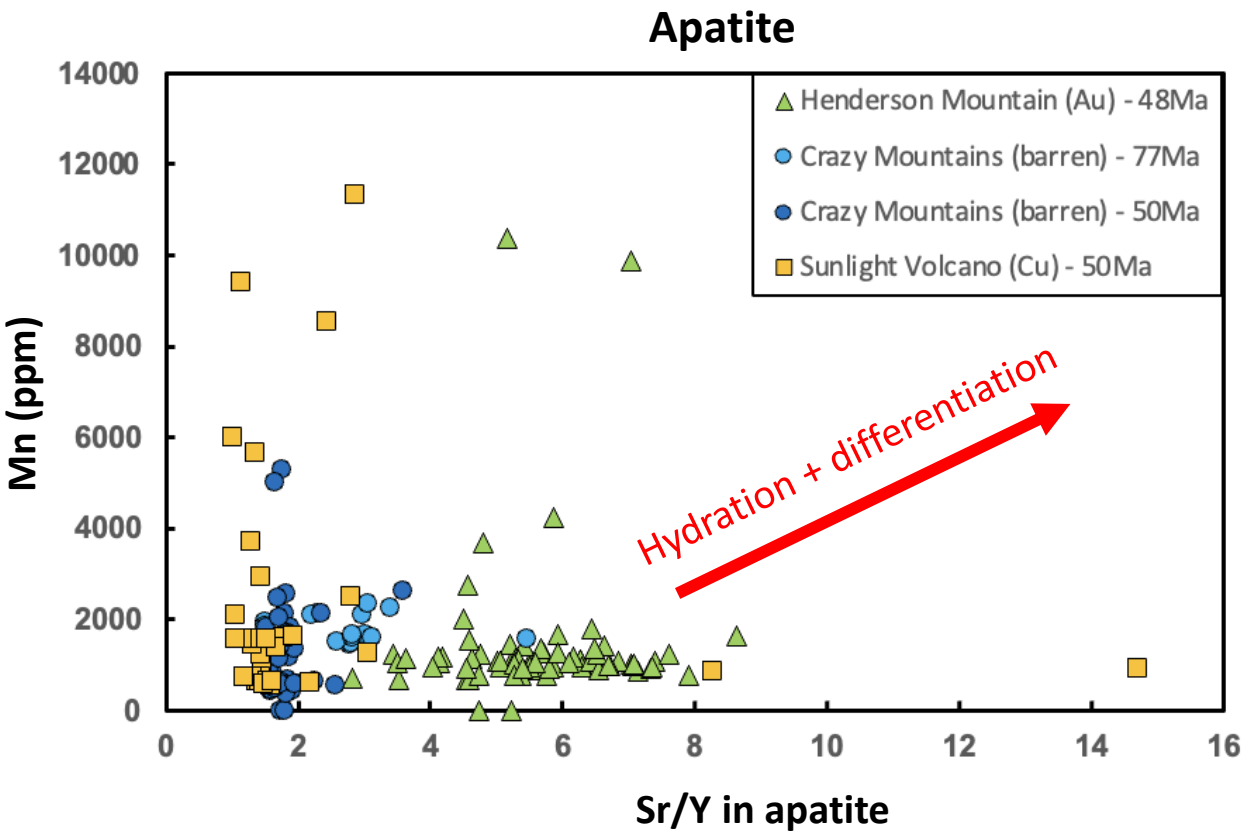


- unmineralised
- Au-mineralization
- Cu-mineralization

- Coeval: 50 Ma
- Spatially correlated: 40 km apart
- Interpreted to be aligned on the same paleo-subduction zone

50 Ma Cu-fertile | 50 Ma Au-fertile | 50 Ma Barren | 77 Ma Barren





Cu-fertile magmas

are less oxidized, higher temperature, more differentiated, and less hydrous than gold-fertile magmas